

WHAT IS CLAIMED IS:

1. A rotatable cutting tool for chip removing machining, comprising:

a basic body defining a center axis of rotation and including:

a front end surface,

an envelope surface,

5 chip channels disposed in the envelope surface, and

cutting seats formed at a transition between the front end surface and the envelope surface and disposed adjacent respective chip channels; and

10 cutting inserts detachable mounted in respective cutting seats, each insert having a square shape and including:

first and second pairs of mutually parallel major cutting edges,

four corners, and

15 four wiper edges, each wiper edge situated between a major cutting edge and a respective corner, the wiper edges being shorter than the major cutting edges and inclined relative thereto wherein an imaginary extension line of the wiper edge forms a first acute angle with respective major cutting edge as the insert is viewed in a direction perpendicular to the top surface, the cutting seats arranged to orient the inserts wherein the axially

5 forwardmost major cutting edge of each insert forms a second acute angle with the axis of rotation, the first angle being equal to the second angle, wherein an axially forwardmost wiper edge of each insert lies in a plane oriented perpendicular to the axis, and wherein a radially outermost wiper edge of each insert is oriented parallel to the axis.

2. The cutting tool according to claim 1 wherein the first and second angles are no greater than 15° .

10 3. The cutting tool according to claim 2 wherein the first and second angles are at least 5° .

4. The cutting tool according to claim 1 wherein the first and second angles are at least 5° .

15 5. The cutting tool according to claim 1 each cutting seat includes a bottom surface and two side support surfaces oriented perpendicular to each other, one of the side support surfaces forming a third angle with the center axis, the third angle being equal to each of the first and second angles.

20 6. The cutting tool according to claim 1 wherein each corner comprises a convexly arched corner edge connected at its opposite ends to a major cutting edge and a wiper edge, respectively.

7. The cutting tool according to claim 6 wherein each insert projects axially forwardly of the front end surface.

8. A cutting insert having a square shape and comprising opposite top and bottom sides, and four side surfaces, wherein transitions between the side surfaces and at least one of the top and bottom surfaces form four major cutting edges spaced apart from one another by four corners of the insert; the major cutting edges comprising two pairs of mutually parallel major cutting edges; a wiper edge formed between each major cutting edge and a respective corner, the wiper edges being shorter than the major cutting edges and inclined relative thereto wherein an imaginary extension line of each wiper edge forms a first acute angle with a respective major cutting edge as the insert is viewed in a direction perpendicular to the top surface, the first acute angle being at least 5° and not greater than 15° ; all of the four wiper edges lying in a first imaginary square which is angularly offset by a second acute angle from a second imaginary square in which the four major cutting edges lie; the first and second acute angles being equal to one another.

9. The cutting insert according to claim 8 wherein each corner forms a convexly arched corner cutting edge.

10. The cutting insert according to claim 9 wherein each wiper edge is linear.

11. The cutting insert according to claim 8 wherein each wiper edge is linear.

12. The cutting insert according to claim 9 wherein all of the major cutting edges, the wiper edges and the corner cutting edges of the at least one of the top and bottom surfaces lie in a common plane.

13. The cutting insert according to claim 8 wherein each wiper edge has a length in the range of 7 to 25% of a length of each major cutting edge.

14. The cutting insert according to claim 8 wherein the at least one of the top and bottom surfaces constitutes the top surface; each side surface comprising a first clearance surface disposed adjacent the top surface, and a second clearance surface disposed adjacent the bottom surface, the first and second clearance surfaces defining first and second non-equal clearance angles, respectively.

15. The cutting insert according to claim 8 wherein a countersink is formed in each side surface at a location spaced from the two corners associated with the respective side surface.

16. The cutting insert according to claim 8 wherein the at least one of the top and bottom surfaces constitutes the top surface, each corner including beveling extending from the bottom surface along a transition of the corner with each of the two associated side surfaces.